# APPENDIX 5-4 – NEPA REVIEW COMPLETED BY PROGRAM

## Overview of Analysis

The following is a summary of the INEEL operations that were analyzed organized according to major program along with a reference of where the analysis was completed.

### Table of Contents

**ANL-W**

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| Nuclear Criticality Experiments and Training Equipment – DOE/EA - 1104 | The surplus weapons grade Pu in storage at ANL-W and INTEC would be inspected and packaged for shipment to LANL. This material will be used at LANL for training criticality professionals from around DOE. |
| Electrometallurgical Treatment in the FCF – DOE/EA-1148 | The EA and FONSI affected the DOE-NE sponsored EBR-II SNF Treatment Project at ANL-W. This addressed the electrometallurgical treatment of sodium-bonded FERMI-1 blanket fuel. This activity took place in the Fuel Conditioning Facility. |
| Lead Test Assembly EA - DOE/EA-1210 | The EA and FONSI affected the Hot Fuel Examination Facility (HFEF) at Argonne National Laboratory-West, which is administered by the DOE Chicago Operations Office. DOE Defense Programs (DP) funded modifications to the HFEF cask transfer tunnel to accommodate CLWR-sized fuel assemblies. DP also funded neutron radiography of the TPBARS in HFEF following their irradiation in the Watts Bar Nuclear Power Plant. The examination of the TPBARS in HFEF is scheduled to conclude by the end of FY 2000. |
| SNF and INEL ER & WM EIS – DOE/EIS – 0203 | The EIS analyzed all ANL-W activities with the exception of reactor operations. |
| Surplus Pu Disposition EIS - DOE/EIS-0283 | The EIS analyzed construction and operation of a MOX fuel fabrication facility at ANL-W. |
| Sodium-Bonded SNF EIS - DOE/EIS – 0306 | The EIS analyzed the use of seven different treatment technologies for treatment and management of Sodium-Bonded SNF at three different sites including ANL-W. |

**ER**

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| Pit 9 Retrieval - DOE/EA-0854 | This EA covered construction and operation of the Pit 9 waste retrieval, treatment, and packaging facilities. |
| SNF and INEL ER & WM EIS – DOE/EIS – 0203 | The EIS covered the entire ER program for all 10 Waste Area Groups. |

**HLW**

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| WM PEIS – DOE/EIS-0200 | The EIS analyzed the DOE programmatic impacts from the HLW program across the complex. Decisions were made for locations of treatment and storage facilities but not for specific operations. |
| SNF and INEL ER & WM EIS – DOE/EIS – 0203 | The EIS covered the entire HLW program. |
| HLW & Facilities Disposition EIS - DOE/EIS-0287D | This EIS analyzes and makes long-term decisions for the INEEL HLW program based on a new set of planning assumptions and treatment technologies. The analysis covers facility operation through 2095. |

**IFF**

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| Expansion of the INEL Research Center - DOE/EA-0845 | This EA is to expand and upgrade facilities at the IRC. DOE proposed to construct a research laboratory addition on the northeast comer of existing laboratory building; upgrade the fume hood system the existing laboratory building; and construct a hazardous -waste handling facility and a chemical storage building. |

**Infrastructure**

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| INEL Sewer System Upgrade - DOE/EA-0907 | INEEL sewer system upgrades at three facilities. |
| Interim Storage of Enriched Uranium EA - DOE/EA-0929 | INEEL programs analyzed are shipment of INEEL and ANL-W highly enriched uranium and low enriched uranium to the Y-12 plant at Oak Ridge, TN. The impacts of leaving the material in place were evaluated in the No Action Alternative. |
| HPIL Replacement - DOE/EA-1034 | INEEL programs analyzed are the Health Physics Instrumentation Laboratory replacement and program. |
| New Silt/Clay Source Development - DOE/EA-1083 | The program analyzed was the need for new soil excavation sites at the INEEL. |
| Nuclear Criticality Experiments and Training Equipment – DOE/EA - 1104 | The surplus weapons grade Pu in storage at ANL-W and INTEC would be inspected and packaged for shipment to LANL. This material will be used at LANL for training criticality professionals from around DOE. |
| Closure of the WCF - DOE/EA-1149 | The program analyzed was closure of the Waste Calcine Facility. |

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| Pit Disassembly and Conversion Demonstration - DOE/EA-1207 | The EA briefly discussed the shipment of plutonium metal from the INEEL to LANL. |
| D&D of the ARMF/CFRMF - DOE/EA-1310 | The project analyzed was the decontamination and dismantlement of the Advanced Reactivity Measurement Facility and Coupled Fast Reactivity Measurements Facility at the TRA. |
| SNF and INEL ER & WM EIS – DOE/EIS – 0203 | The EIS covered the portions of the Infrastructure program that affect ER, WM, and SNF operations. Included were impacts of a 11,600 person workforce, power usage, water usage, emergency services, etc. |

**NRF**

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| 1997 Demolition NRF EA | Demolition of the S5G Cooling Tower; Butler Buildings 7, 8, and 9; S1W #2 Spray Pond; and S1W Exterior Ventilation |
| 2000 Demolition NRF EA | Demolition of Fourteen Buildings and One Structure Ancillary to the Naval Prototype Plants at the Naval Reactors Facility |
| SNF and INEL ER & WM EIS – DOE/EIS – 0203 | This EIS covered all operations at NRF in 1995. |
| Yucca Mountain EIS - DOE/EIS-0250D | The EIS considers a repository inventory of 70,000 metric tons of heavy metal (MTHM) comprised of 63,000 MTHM of commercial spent nuclear fuel and 7,000 MTHM of DOE spent nuclear fuel and high-level radioactive waste. This overall inventory includes approximately 50 metric tons of surplus weapons-usable plutonium as spent mixed-oxide fuel and immobilized plutonium. |
| Navy Container Systems EIS - DOE/EIS-0251 | Analyzes environmental impacts at the INEEL and the location(s) for fabrication of container systems in the following areas: Manufacturing alternative container systems, Loading and storage at INEEL facilities, Unloading naval SNF at a repository surface facility or a centralized interim storage facility, Impacts of transportation of naval SNF. |
| Savannah River Site SNF EIS - DOE/EIS – 0279 | Discusses overall SNF shipments between the INEEL and Savannah River Site. |
| Sodium-Bonded SNF EIS - DOE/EIS – 0306 | The EIS analyzed the use of seven different treatment technologies for treatment and management of Sodium-Bonded SNF at three different sites including ANL-W. |
| Supplement Analysis for a SNF Container System - DOE/ID-10636 | The Navy Container System EIS and its resulting RODs addressed only naval SNF located at the INEEL. To complete all actions required under Section F.4 of the Settlement Agreement, further National Environmental Policy Act (NEPA) evaluation was required to address the non-Navy DOE SNF located at the INEEL. DOE has prepared this SA to determine what further NEPA review may be required in fulfillment of its responsibilities under Section F.4 of the Settlement Agreement. |

**SNF**

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| Relocation and Storage of TRIGA Reactor Fuel – DOE/EA-0985 | Evaluates shipment of fuel to the INEEL prior to the 1995 SNF EIS. This has been superseded by the 1995 SNF EIS ROD. |
| EA for Stabilization of the Storage Pool at TAN - DOE/EA-1050 | This EA identified and evaluated environmental impacts associated with spent nuclear fuel for (a) constructing an Interim Storage System (ISS) at INTEC; (b) removing the TMI and commercial fuels from the pool and transporting them to INTEC for placement in an ISS, and (c) draining and stabilizing the TAN Pool. |
| Electrometallurgical Treatment in the FCF – DOE/EA-1148 | The EA and FONSI affected the DOE-NE sponsored EBR-II SNF Treatment Project at ANL-W. This addressed the electrometallurgical treatment of sodium-bonded FERMI-1 blanket fuel. The FERMI fuel was in storage at INTEC. |
| TAN Pool Stabilization Project Update - DOE/EA-1217 | This update analyzes the environmental and health impacts of a "drying" process for the Three Mile Island (TMI) nuclear reactor core debris canisters that were stored underwater at TAN. |
| SNF and INEL ER & WM EIS – DOE/EIS – 0203 | The EIS covered the entire SNF program managed at the INEEL. |
| EIS on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor SNF - DOE/EIS – 0218F | The INEEL would receive and manage FRR SNF at existing dry and/or wet storage facilities. The existing facilities identified for this purpose would be the Fluorinel Dissolution and Fuel Storage Facility in CPP-666, the Irradiated Fuel Storage Facility in CPP-603, and the CPP-749 storage area. As an alternative, the INEEL could continue to receive and manage FRR SNF at a new dry storage or wet storage facility to be constructed at the site. |
| Yucca Mountain EIS - DOE/EIS-0250D | The EIS considers a repository inventory of 70,000 metric tons of heavy metal (MTHM) comprised of 63,000 MTHM of commercial spent nuclear fuel and 7,000 MTHM of DOE spent nuclear fuel and high-level radioactive waste. This overall inventory includes approximately 50 metric tons of surplus weapons-usable plutonium as spent mixed-oxide fuel and immobilized plutonium. |
| Navy Container Systems EIS - DOE/EIS-0251 | Analyzes environmental impacts at the INEEL and the location(s) for fabrication of container systems in the following areas: Manufacturing alternative container systems, Loading and storage at INEEL facilities, Unloading naval SNF at a repository surface facility or a centralized interim storage facility, Impacts of transportation of naval SNF. |
| Savannah River Site SNF EIS - DOE/EIS – 0279 | Discusses overall SNF shipments between the INEEL and Savannah River Site. |

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| Supplement Analysis for a SNF Container System - DOE/ID-10636 | The Navy Container System EIS and its resulting RODs addressed only naval SNF located at the INEEL. To complete all actions required under Section F.4 of the Settlement Agreement, further National Environmental Policy Act (NEPA) evaluation was required to address the non-Navy DOE SNF located at the INEEL. DOE has prepared this SA to determine what further NEPA review may be required in fulfillment of its responsibilities under Section F.4 of the Settlement Agreement. |
| Construction and Operation of the Independent Spent Fuel Storage Installation – NUREG-1626 | The program analyzed is the storage of TMI-2 core debris and commercial fuels in an ISFSI at the INEEL. All alternatives would take place at the INEEL except for the alternative "Construct An ISFSI At A Location Not Located Above The Snake River Aquifer." This includes Refurbish the Test Area North Pool Alternative, Construct New Wet Storage Facility Alternative, and Storage at INTEC Alternative. |

**TRA**

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| Baseline Document for the Test Reactor Area Hot Cells - OPE-TRA-00-002 | TRA Hot Cell operations were analyzed with consideration of historical operations, operating parameters, operational incidents, waste stream generation, air effluents, and worker radiological exposure. |
| Nuclear Infrastructure PEIS - DOE/EIS-0310D | The programs that are analyzed in this PEIS are the Advanced Test Reactor with support facilities and the Fluorinel Dissolution Process Facility (FDPF) for 35 years. In Alternative 2 the ATR is considered for Np-237 irradiation in a number of options both singly and in combination with the High Flux Isotope Reactor. The FDPF is considered as a storage and processing facility in the No Action alternative and Alternative 2. |

**WM**

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| Operation of the Glass Melter Thermal Treatment Unit at the Mound Plant - DOE/EA-0821 | WERF was analyzed as a treatment option for Mound mixed waste. |
| Low-Level and Mixed Waste Processing - DOE/EA-0843 | The WERF incinerator is an existing facility that has treated both LLW and MLLW (on an experimental basis). The EA analysis was for INEEL LLW and MLLW and included WERF incineration, sizing, compaction, and stabilization; offsite incineration in operating commercial facilities, and continued storage of MLLW at the MLLWSF. |
| TRU Waste Characterization Facility - DOE/EA-0906 | The EIS analyzes construction and operation of a waste characterization facility for transuranic waste at the RWMC. |

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| Environmental Assessment for Offsite Thermal Treatment of Low-level Mixed Waste - DOE/EA-1135 | Treatment of Hanford mixed waste at the Waste Experimental Reduction Facility (WERF) was one option but was dismissed because of the greater risk of a transportation accident and the shipping costs. Therefore the actual treatment itself was not analyzed. |
| Non-Thermal Treatment of Hanford Site Low Level Waste - DOE/EA-1189 | Hanford mixed waste was analyzed for treatment at the Advanced Mixed Waste Processing Facility including transportation of the waste from Hanford to the INEEL and shipment of the treated material back to Hanford for disposal. |
| Waste Isolation Pilot Plan Disposal Phase Final Supplemental Environmental Impact Statement - DOE/EIS-0026-S-2 | Long-term disposition of the INEEL TRU waste including characterization and transportation. |
| Tritium Supply and Recycling Programmatic Environmental Impact Statement - DOE/EIS-0161 | The INEEL was an alternative for construction of a new tritium source. The INEEL analyses included an overall site description and detailed descriptions of nine distinct and geographically separate functional mission areas. The analysis was grouped into the following two major categories, environmental management activities and other DOE activities. |
| Waste Management Programmatic EIS - DOE/EIS-0200-F | The EIS analyzed the DOE programmatic impacts from the LLW, Mixed LLW, and TRU programs across the complex. Decisions were made for locations of treatment, storage, and disposal facilities but not for specific operations. |
| SNF and INEL ER & WM EIS – DOE/EIS – 0203 | The EIS covered the WM program managed at the INEEL for all waste streams. This included LLW treatment, storage, and disposal; MLLW treatment and storage; Hazardous Waste storage and disposal; and Transuranic waste treatment, storage and disposal options. |
| Advanced Mixed Waste Treatment Project EIS - DOE/EIS-0290 | Construction and operation of a new TRU treatment facility at the RWMC. |

**Proposed New Projects**

| NEPA Document | Scope of Analyzed INEEL Operations |
|---|---|
| Radioactive Source Recovery Program - DOE/EA-1059 | The TRA was initially proposed as a potential location for the source recovery effort. This proposal was dismissed due to unworkable programmatic impacts. Shipment of sources currently held by the INEEL was not included in the analysis. |

| | |
|---|---|
| Consolidation of Certain Materials and Machines for Nuclear Criticality Experiments and Training - DOE/EA-1104 | The materials that were originally used at the INEEL in criticality experiments are at the Argonne National Laboratory West, Zero Power Research Reactor (ZPRR) facility. That facility is currently shut down with little reasonable chance that it would be reactivated. Approximately 100 kg (220 lbs.) of weapons grade plutonium has been declared surplus to the INEEL needs and is, therefore, available for use in general criticality experiments. The proposed action consists of the shipment, storage, consolidation, and use of surplus special nuclear materials and machines that would be used in support of the LACEF criticality experiments and training program at LANL. The anticipated operational life of the proposed action is approximately 30 years. |
| Storage and Disposition of Weapons-Usable Fissile Materials FEIS - DOE/EIS-0229 | Concerning HEU storage, the INEEL is identified as a potential site for the "No Action Alternative" (i.e., Maintain Existing HEU Storage).<br><br>Concerning plutonium disposition, the INEEL is identified as a potential site for the "Pit Disassembly/Conversion" and "MOX Fuel Fabrication" alternatives. |
| Medical Isotopes Production Project: Molybdenum 99 and Related Isotopes EIS - DOE/EIS-0249-F | Power Burst Facility/Test Area North. All process steps would be carried out onsite at INEEL. Targets would be fabricated at INEEL at the Test Area North in a building similar to the Experimental Test Reactor Critical Facility annex or the lower floor of the Materials Test Reactor building. The targets would be shipped for irradiation to the Power Burst Facility, which would be restarted for this purpose. The Mo-99 would be extracted from the irradiated targets, either in existing hot cells at the Test Area North or at new hot cells constructed for this purpose. Low-level radioactive wastes would be disposed of onsite at INEEL. The ATR was also considered for Mo-99 production but was eliminated as a candidate site. |
| Tritium Supply and Recycling Programmatic EIS - DOE/EIS-0161 | The INEEL analyses included an overall site description and detailed descriptions of nine distinct and geographically separate functional mission areas. The analysis was grouped into the following two major categories, environmental management activities and other DOE activities. This document presents an in depth analysis of INEEL operations. |